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MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: GLOBAL AMPLIFICATION USING A RANDOMLY PRIMED COMPOSITE PRIMER

(57) Abstract: The invention relates to the field of polynucleotide amplification. More particularly, the invention provides meth-
ods, compositions and kits for amplification of (i.e., making multiple copies of) a multiplicity of different polynucleotide template
sequences using a randomly primed RNA/DNA composite primer.

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INTERNATIONAL SEARCH REPORT

International Application No

101/US2004/012779

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, Sequence Search, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

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T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

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G document member of the same patent family

Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>WO 02/072772 A (KURN NURITH ; NUGEN TECHNOLOGIES INC (US)) 19 September 2002 (2002-09-19)</p> <p>claims 1,5,12,14,18-21,111,114-134,136-138,158 page 17, line 16 - line 22 page 20, line 3 - line 18 page 26, line 17 - page 30, line 18 page 37, line 12 - line 26 page 56, line 18 - page 62, line 12 page 64, line 16 - line 27 page 70, line 2 - line 30 page 76, line 14 - page 77, line 24 page 87, line 9 - page 88, line 23</p>	<p>1-40, 44-57, 59-75, 77-97, 99-117, 119-139, 141,142</p>
Y		<p>41-43, 58,76, 98,118</p>
Y	<p>WO 02/48402 A (KURN NURITH ; NUGEN TECHNOLOGIES INC (US)) 20 June 2002 (2002-06-20) page 117 page 3, line 8 - line 26</p>	<p>41-43, 58,76, 98,118</p>
X	<p>WO 99/23256 A (LUCITO ROBERT ; WIGLER MICHAEL (US); COLD SPRING HARBOR LAB (US)) 14 May 1999 (1999-05-14) page 30, line 14 - line 20</p>	<p>140</p>
A	<p>US 6 124 120 A (LIZARDI PAUL M) 26 September 2000 (2000-09-26) column 3, line 5 - line 28</p>	<p>1-121</p>

INTERNATTIONAL SEARCH REPORT

International application No.

PCT/US2004/012779

Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of Item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☒ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing
 - ☒ contained in the international application as filed
 - ☐ filed together with the international application in computer readable form
 - ☒ furnished subsequently to this Authority for the purpose of search
2. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 02072772	A	19-09-2002	CA 2416963 A1	19-09-2002
			CN 1473202 T	04-02-2004
			EP 1366197 A2	03-12-2003
			WO 02072772 A2	19-09-2002
			US 2003087251 A1	08-05-2003
WO 0248402	A	20-06-2002	AU 2897402 A	24-06-2002
			CA 2430329 A1	20-06-2002
			EP 1427847 A2	16-06-2004
			WO 0248402 A2	20-06-2002
			US 2003186234 A1	02-10-2003
WO 9923256	A	14-05-1999	AU 753505 B2	17-10-2002
			AU 1449799 A	24-05-1999
			CA 2307674 A1	14-05-1999
			EP 1032705 A1	06-09-2000
			JP 2001521754 T	13-11-2001
			WO 9923256 A1	14-05-1999
			US 2004137473 A1	15-07-2004
US 6124120	A	26-09-2000	AU 749560 B2	27-06-2002
			AU 9791598 A	27-04-1999
			CA 2308004 A1	15-04-1999
			EP 1021562 A1	26-07-2000
			JP 2001519172 T	23-10-2001
			WO 9918241 A1	15-04-1999
			US 6280949 B1	28-08-2001
			US 2004063144 A1	01-04-2004
			US 2003143536 A1	31-07-2003